

# EXHIBIT 15

## Appendix A: Seismic Survey Mitigation and Protected Species Observer Protocols

These protocols will be implemented by the Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BSEE), and provide guidelines to operators in complying with the Endangered Species Act (ESA; 16 U.S.C. §§ 1531-1544) and Marine Mammal Protection Act (MMPA; 16 U.S.C. §§1361- 1423h). The measures contained herein apply to all seismic surveys approved by BOEM and associated with the federally regulated oil and gas program in the Gulf of Mexico.

### Background

Geophysical surveys, including the use of airguns and airgun arrays, may have an impact on marine wildlife. Many marine species are protected under the Endangered Species Act (ESA) and all marine mammals (including manatees) are protected under the Marine Mammal Protection Act (MMPA). The following Gulf of Mexico species are listed under the ESA:

<b>ESA-listed Species common to the Gulf of Mexico</b>
Gulf of Mexico Bryde's Whale ( <i>Balaenoptera edeni</i> )
Sperm Whale ( <i>Physeter macrocephalus</i> )
Green Turtle ( <i>Chelonia mydas</i> ) – North Atlantic DPS and South Atlantic DPS
Hawksbill Turtle ( <i>Eretmochelys imbricata</i> )
Kemp's Ridley Turtle ( <i>Lepidochelys kempi</i> )
Leatherback Turtle ( <i>Dermochelys coriacea</i> ) - Northwest Atlantic DPS
Loggerhead Turtle ( <i>Caretta caretta</i> ) – Northwest Atlantic Ocean DPS
Gulf Sturgeon ( <i>Acipenser oxyrinchus desotoi</i> )
Oceanic Whitetip Shark ( <i>Carcharhinus longimanus</i> )
Giant Manta Ray ( <i>Manta birostris</i> )
West Indian Manatee ( <i>Trichechus manatus</i> )*

\*Managed by the US Fish and Wildlife Service

Note that this list can change as other species are listed/delisted, and this protocol shall be applied to any ESA protected species (and all marine mammals) that occur in the Gulf of Mexico, including rare and extralimital species.

BSEE and BOEM consult jointly with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) under Section 7 of the ESA to ensure that BOEM- or BSEE-authorized activities do not jeopardize the continued existence of ESA-listed species nor result in destruction or adverse modification of designated critical habitat. Incidental take of ESA-listed species is prohibited except as authorized pursuant to an Incidental Take Statement in the attached Biological Opinion. Incidental take of ESA-listed marine mammals cannot be exempted under the ESA unless also authorized under the MMPA. In this case, NMFS is

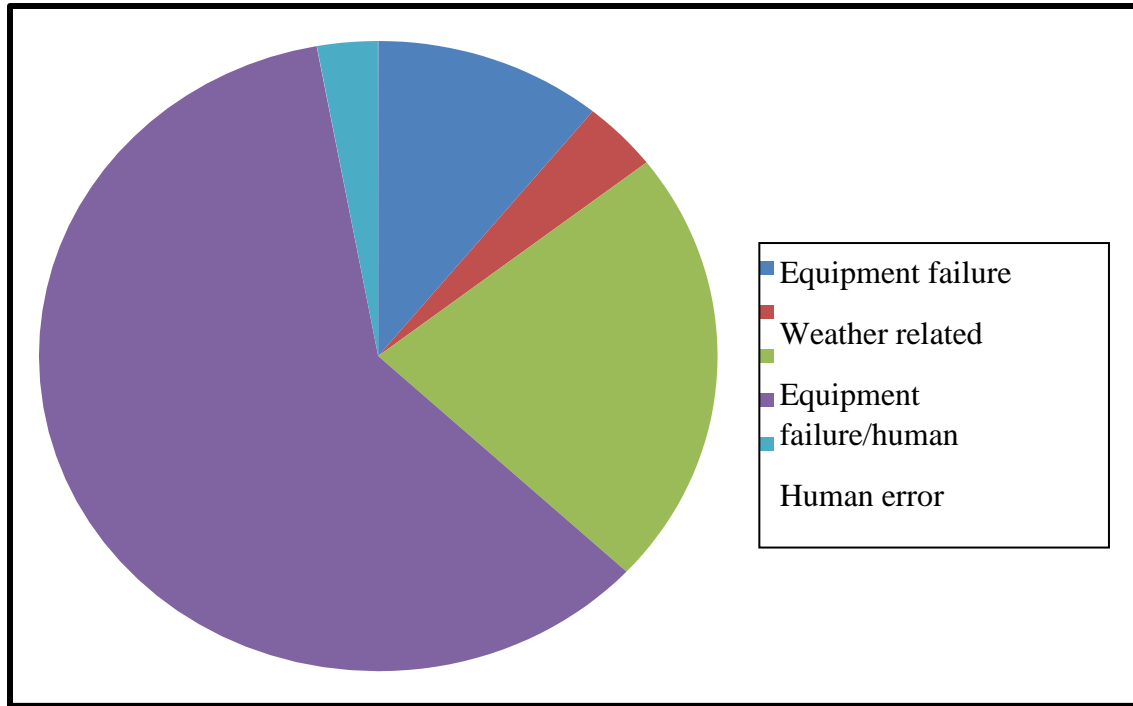
Year of Spill Event	Number of Blowouts	Duration (days)	Water Depth (ft)	Volume Spilled (bbl)	Details
1970	1	138	60	53,000	Drilling blowout and fire in South Timbalier, Block 26
2010	1	86	4,992	4.9 million est.	Blowout and fire in Mississippi Canyon, Block 252

*Source: BOEM BA supplemental information*

Several other non-blowout-related spills were caused by Hurricane Rita in 2005 (six structures lost or damaged), Hurricane Jeanne in 1980 (one damaged structure), a sinking storage barge (one event), vessels colliding with platform (two events), and leaking storage structures (three events) (Table 2). However, all but one of these non-blowout-related spills were less than 10,000 bbl.

**Table 2. Non-blowout Spills on the Outer Continental Shelf that Have Resulted in Spills Greater than 1,000 bbl.**

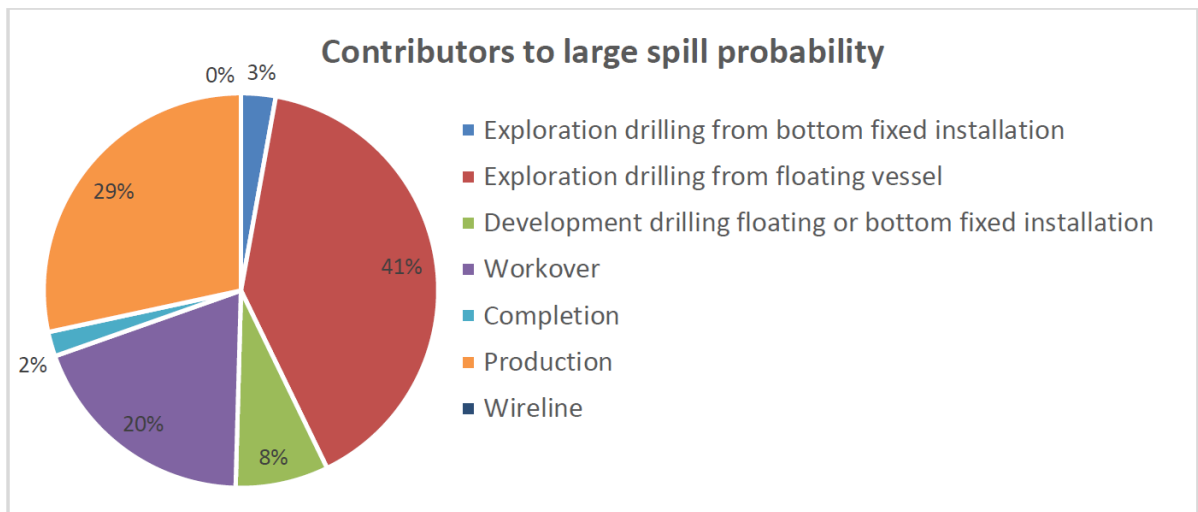
Year of Spill Event	Number of Structures	Water Depth (ft)	Volume Spilled (bbl)	Details
1964	1	94	2,559	Freighter struck platform in Eugene Island, block 208.
1964	1	102	1,589	Storage tank lost during Hurricane Hilda in Ship Shoal, Block 149
1969	1	30	2,500	Supply vessel collided with a semisubmersible drilling rig in Ship Shoal, Block 72
1973	1	110	9,935	Storage tank failure in West Delta, Block 79
1973	1	61	7,000	Storage barge sank
1979	1	61	1,500	Workboat collided with a drilling rig putting a hole in a diesel tank, Main Pass, Block 151



Source: BOEM BA supplemental information

**Figure 1. Causes of oil and gas accidents reported on the Gulf of Mexico OCS from 2011-2013 as reported to BSEE.**

BSEE (2017) examined loss of well control events and categorized contributors to the probability as shown in Figure 2, and Figure 3 displays BSEE's risk analysis for oil spills caused by loss of well control events. The highest risk events are the blowout (surface flow) accidents, which have potential for the more severe overall impacts (BSEE 2017). According to BSEE (2017), risk may be reduced by reducing the drilling kick frequency.



Source: BOEM BA supplemental information

**Figure 2. Pie chart from BSEE (2017) displaying the categories of contributors to large spill probability.**